CITY OF AURORA
RETIREE HEALTH INSURANCE PLAN

ACTUARIAL VALUATION
AS OF DECEMBER 31, 2014

April 23, 2015

Ms. Linda B. Read
Assistant Director of Finance
City of Aurora
44 E. Downers Place
Aurora, Illinois 60505

Re: Actuarial Valuation of the City of Aurora Retiree Health Insurance Plan As of December 31, 2014 for GASB Statement No. 45

Dear Ms. Read:

We are pleased to submit our actuarial report on the actuarial valuation of the City of Aurora Retiree Health Insurance Plan as of December 31, 2014 for purposes of GASB Statement No. 45.

The report consists of nine Sections and one Appendix as follows:

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We would be pleased to discuss any aspects of this report with you at your convenience.

Respectfully submitted,

Sandor Goldstein, F.S.A
Consulting Actuary

A. PURPOSE AND SUMMARY

Under GASB Statement No. 45, actuarial liabilities and the annual required contribution need to be determined for the City of Aurora Retiree Health Insurance Plan. We have therefore performed an actuarial valuation as of December 31, 2014 of the City of Aurora Retiree Health Insurance Plan. The purpose of the valuation was to determine the total actuarial liability and annual required contribution for the retiree health insurance benefits provided under the plan for financial reporting purposes pursuant to GASB Statement No. 45.

This report is intended to present the results of the valuation. The results of the valuation are summarized below:

1. Total Actuarial Liability	$ 218,733,181
2. Actuarial Value of Assets	33,287,416
3. Unfunded Actuarial Liability	185,445,765
4. Annual Required Contribution For Year Beginning January 1, 2015	14,044,926

B. DATA USED FOR THE VALUATION

Participant Data. The participant data required to carry out the valuation was supplied by the staff of the City of Aurora. The membership of the plan as of December 31, 2014, on which the valuation was based, is summarized in Exhibit 1. It can be seen that there were 944 active employees and 492 retirees currently receiving benefits included in the valuation.

EXHIBIT 1

Summary of Membership Data

1. Number of Retirees Currently Receiving Benefits	492
2. Number of Active Employees	944
3. Total Number of Members	1,436
4. Average Age of Active Employees	44.1
5. Average Years of Participation of Active Employees	13.7
6. Average Age of Retired Employees	66.4

Assets. The City and the retirees make contributions to a fund under which assets are being accumulated in advance for the payment of retiree health insurance benefits. As of December 31, 2014, the net assets of the plan amounted to $33,287,416.

C. PLAN PROVISIONS

Our valuation was based on the provisions of the Plan in effect as of December 31, 2014. The provisions of the plan are summarized below:

The City provides postemployment health care benefits to its retirees. To be eligible for benefits, an employee must qualify for retirement under one of the City's retirement plans. All health care benefits are provided through the City's insured health plan. The benefits provided are the same as those provided for active employees.

The amount of retiree contributions is determined through collective bargaining or city policy depending on the retiree's group at the time of retirement. Retirees generally contribute 22% to 35% of the actuarially determined premium to the plan and the City contributes the remainder of the cost of providing benefits to retirees through the self-insured plan.

PPO Health Plan Costs

All retirees are covered under the Blue Cross Blue Shield PPO plan. For 2014, the annual cost of the PPO plan was estimated to be as follows:

COVERAGE	Annual Cost
Retiree	$ 8,442.12
Retiree +1	$21,105.36
Retiree + Family	$29,547.48

D. ACTUARIAL ASSUMPTIONS AND COST METHOD

In performing the actuarial valuation of the retiree health insurance program for purposes of GASB Statement No. 45, we used such parameters and assumptions as are prescribed in GASB Statement No. 45 for actuarial valuations of retiree health insurance benefits. These parameters and assumptions are described below:

Interest Rate Assumption

Some assets have been accumulated under a retiree health insurance fund and the plan is partially funded. Therefore, based on the provisions of GASB Statement No. 45, we have used an interest rate assumption of 5.5% in performing the actuarial valuation as of December 31, 2014.

Medical Trend Rate Assumption

One of the most important assumptions is the medical trend rate assumption used to increase per member medical costs in future years. The medical trend rate assumption that we have used starts at 7.5% in 2016 and gradually declines to 5.0% by the year 2021 as follows:

Year	Medical Trend
2016	7.5%
2017	7.0%
2018	6.5%
2019	6.0%
2020	5.5%
2021 and later	5.0%

Per Retiree Monthly Costs

The annual costs of the PPO plan represent the average annual cost per plan participant of the health insurance benefits provided under the plan.

GASB Statement No. 45 provides that projection of future retiree health care benefits should be based on actuarial standards issued by the Actuarial Standards Board. Actuarial Standards of Practice No. 6 provides that actuaries should consider the variation of health care costs by age and should use appropriate age bands if the costs vary significantly.

We have therefore developed age-adjusted costs per retiree that are equivalent to the above average annual costs per participant by using the Aging Curve for Health Care Costs that is included in Table 4 of the study Aging Curves for Health Care Costs in Retirement, by Jeffrey P. Petertil, published in the July 2005 issue of the *North American Actuarial Journal*.

The percent increases in health care costs by age that are shown in Table 4 of the above paper are as follows:

Age Band	Representative One Year Aging Factor
50-54	3.3%
55-59	3.6%
60-64	4.2%
65-69	3.0%
70-74	2.5%
75-79	2.0%
80-84	1.0%
85-89	0.5%
90 and over	0.0%

Applying the above rates of increases in health care costs by age, we developed costs per retiree by five-year age groups that were equivalent to the above average costs per participant. The costs per retiree by five-year age groups were developed so the total of the age-adjusted costs was equal to the total of the average costs.

Using the above approach and taking into account the number of participants in each plan, we developed the following age adjusted total monthly total costs per retiree under the plan, including the cost of dependent coverage:

Age Band	Age – Adjusted Total Monthly Cost
50-54	$1,562.76
55-59	$1,851.58
60-64	$2,241.87
65-69	$ 725.45
70-74	$ 830.83
75-79	$ 928.59
80-84	$1,000.29
85 and over	$1,038.35

Participation Rate

We have assumed that 100% of current active employees will participate in the retiree health insurance plan.

Demographic Assumptions

Mortality Rates. The RP-2000 Combined Mortality Table projected to 2014, was used for IMRF active employees and pensioners. The RP-2000 Mortality Table with Blue Collar Adjustment, projected to 2014, was used for active and retired police officers and firefighters. The RP-2000 Disabled Mortality Table, projected to 2014, was used for disabled police officers and firefighters.

Termination Rates. For IMRF employees higher rates of termination are used during the first 8 years of employment. The following is a sample of the termination rates that were used:

Rate of Termination

Years of Service	IMRF Employees
0	.1790
4	.1158
7	.0684

Age	IMRF Employees	Police	Firefighters
25	.0530	.0750	.0500
30	.0410	.0500	.0250
35	.0330	.0300	.0200
40	.0270	.0200	.0100
45	.0230	.0200	.0100
50	.0200	.0350	.0100

Retirement Rates. For police, rates of retirement for each age from 50 to 70 were used. For firefighters, rates of retirement for each age from 50 to 70 were used. For general employees, rates of retirement for each age from 55 to 70 were used. Higher rates are used for general employees with 35 or more years of service aged 55-59. The following is a sample of the retirement rates that were used:

Rate of Retirement

Age	IMRF Employees	Police	Firefighters
50		.2000	.1400
55	.0725	.2500	.2000
60	.1200	.3300	.2500
65	.2500	.5000	.5000
70	1.0000	1.0000	1.0000

Disability Rates. For police and firefighters, rates of disability were used to estimate the probability of becoming disabled. The following is a sample of the disability rates that were used:

Rate of Disability

Age	Police	Firefighters
25	.0005	.0010
30	.0022	.0014
35	.0026	.0035
40	.0040	.0050
45	.0065	.0065
50	.0095	.0100
55	.0130	.0150

Actuarial Cost Method. The entry age normal actuarial cost method was used for the valuation. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit age.

E. ACTUARIAL LIABILITY

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 2. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability.

As of December 31, 2014, the total actuarial liability for retiree health insurance benefits provided under the plan is $218,733,181, the actuarial value of assets is $33,287,416, and the unfunded actuarial liability is $185,445,765.

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EXHIBIT 2

Actuarial Liability as of December 31, 2014

1. Actuarial Liability for Active Members	$ 124,325,166
2. Actuarial Liability for Members Receiving Benefits	94,408,015
3. Total Actuarial Liability	$ 218,733,181
4. Actuarial Value of Assets	33,287,416
5. Unfunded Actuarial Liability	$ 185,445,765
6. Funded Ratio	15.2%

F. NORMAL COST

The normal cost for the year beginning January 1, 2015 is shown below in Exhibit 3. The total normal cost is $6,308,365.

EXHIBIT 3

Normal Cost For Year Beginning January 1, 2015

	Dollar Amount
Total Normal Cost	$ 6,308,365

G. ANNUAL REQUIRED CONTRIBUTION FOR GASB STATEMENT NO. 45

Pursuant to GASB Statement No. 45, we have calculated the annual required contribution for the year beginning January 1, 2015 as the normal cost plus a 30-year amortization of the unfunded actuarial liability as a level percent of payroll. Therefore, the annual required contribution (ARC) for the year beginning January 1, 2015 for purposes of GASB Statement No. 45 is as follows:

1. Total normal cost	$ 6,308,365
2. Annual amount to amortize the unfunded liability over 30 years as a level percent of payroll	7,736,561
3. Annual required contribution (1 + 2)	$ 14,044,926

A breakdown of the Annual Required Contribution by Fund is provided on the following pages.

City of Aurora
Retiree Health Insurance Plan

Annual Required Contribution as of January 1, 2015

Breakdown of Annual Required Contribution by Fund

Fund Number	(1) Actuarial Liability	(2) Normal Cost	(3) Amortization Amount	(4) Annual Required Contribution (2) + (3)
1002	$566,637	$42,696	$20,042	$62,738
1004	2,219,841	95,789	78,515	174,304
1010	141,516	0	5,005	5,005
1102	782,145	21,474	27,664	49,138
1202	929,623	40,914	32,881	73,795
1220	705,718	19,123	24,961	44,084
1221	372,772	3,171	13,185	16,356
1230	303,808	4,254	10,746	15,000
1231	237,770	18,766	8,410	27,176
1232	1,115,240	50,798	39,446	90,244
1233	212,367	28,251	7,511	35,762
1240	77,759	5,397	2,750	8,147
1302	1,103,389	46,529	39,027	85,556
1314	580,964	20,481	20,549	41,030
1330	482,905	10,991	17,080	28,071
1340	152,475	18,159	5,393	23,552
1370	348,225	8,412	12,317	20,729
1702	29,586	42,608	1,046	43,654
1710	744,531	20,990	26,334	47,324
1715	163,323	5,609	5,777	11,386
1716	232,470	9,391	8,222	17,613
1727	3,455,110	86,436	122,207	208,643
1745	519,177	27,063	18,363	45,426
1765	121,979	4,889	4,314	9,203
1802	1,417,792	18,969	50,148	69,117
1810	238,902	0	8,450	8,450
1820	2,215,639	85,270	78,367	163,637
1840	592,713	27,410	20,964	48,374
2502	912,328	33,969	32,269	66,238
2521	1,366,053	59,206	48,317	107,523

City of Aurora
Retiree Health Insurance Plan

Annual Required Contribution as of January 1, 2015

Breakdown of Annual Required Contribution by Fund

Fund Number	(1) Actuarial Liability	(2) Normal Cost	(3) Amortization Amount	(4) Annual Required Contribution (2) + (3)
2522	154,696	2,724	5,472	8,196
2523	901,269	20,488	31,878	52,366
2526	681,548	16,433	24,106	40,539
2533	183,653	4,932	6,496	11,428
2560	1,260,215	43,380	44,574	87,954
3033	65,769,863	1,767,303	2,326,271	4,093,574
3038	183,185	7,483	6,479	13,962
3536	87,461,231	2,584,300	3,093,491	5,677,791
3537	3,347,553	117,356	118,402	235,758
4002	982,789	33,550	34,761	68,311
4020	1,068,075	21,107	37,778	58,885
4040	3,516,044	79,701	124,362	204,063
4058	5,724,472	131,750	202,474	334,224
4062	849,400	0	30,043	30,043
4063	6,514,710	163,634	230,424	394,058
4402	1,679,057	36,702	59,388	96,090
4430	740,383	36,771	26,187	62,958
4431	3,308,308	89,555	117,014	206,569
4432	828,743	4,019	29,313	33,332
4433	701,935	21,981	24,827	46,808
4434	352,626	8,146	12,472	20,618
4440	2,154,276	56,334	76,196	132,530
4441	149,579	15,182	5,291	20,473
4442	461,616	5,981	16,327	22,308
4443	507,484	3,339	17,950	21,289
4460	6,907,714	179,199	244,325	423,524
Total	$218,733,181	$6,308,365	$7,736,561	$14,044,926

H. GASB DISCLOSURE INFORMATION

Governmental Accounting Standards Board (GASB) Statement No. 45 established financial reporting standards for post-employment benefits other than pensions (OPEB) of governmental employers. The statement requires a presentation of "actuarially determined information, from a long-term perspective, about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due". The information, covering a minimum of three years, is to be provided in two schedules of historical trend information, as follows:

1. The Schedule of Funding Progress provides information about the actuarially determined funded status from a long-term ongoing plan perspective and the progress made toward accumulating sufficient assets, and

2. The Schedule of Employer Contributions provides information about the annual required contribution (ARC) and percent of the ARC actually contributed by the employer.

Based on the results of the December 31, 2014 actuarial valuation, we have prepared a Schedule of Funding Progress and a Schedule of Employer Contributions, which are included in Exhibits 4 and 5 below.

We have also made calculations to determine the Net OPEB Obligation (NOO) as of December 31, 2014. Our calculations have been based on the parameters prescribed in GASB Statement No. 45 for

EXHIBIT 4

SCHEDULE OF FUNDING PROGRESS

Fiscal Year	Total Actuarial Liability	Actuarial Value of Assets	Assets as a % of Actuarial Liability	Unfunded Liability	Active Member Payroll	UAL as a % of Active Member Payroll
2010	172,968,000	24,193,191	14.0%	148,774,809	64,712,359	229.9%
2011	165,542,261	24,199,774	14.6%	141,342,487	65,237,549	216.7%
2012	197,518,139	26,735,905	13.5%	170,782,234	72,083,003	236.9%
2013	206,806,028	30,403,650	14.7%	176,402,378	67,057,641	263.1%
2014	218,733,181	33,287,416	15.2%	185,445,765	74,988,337	247.3%

EXHIBIT 5

SCHEDULE OF TOTAL CONTRIBUTIONS

Fiscal Year	Total Contributions: Annual OPEB Cost (AOC)	Total Contributions: Employer Contribution	Total Contribution as a Percent of AOC
2010	13,674,943	4,548,786	33.26%
2011	13,331,086	4,580,046	34.36%
2012	12,974,168	5,380,735	41.47%
2013	14,714,208	6,116,378	41.57%
2014	13,904,908	7,437,793	53.49%

EXHIBIT 6

NET OPEB OBLIGATION AS OF DECEMBER, 2014

1. Net OPEB Obligation (NOO) as of 12-31-2013	$83,149,101
2. Annual Required Contribution (ARC)	12,800,581
3. Interest on NOO	4,573,201
4. Adjustment to ARC	(3,468,874)
5. Annual OPEB Cost (AOC) for 2014 (2 + 3 + 4)	13,904,908
6. Employer Contribution for 2014	7,437,793
7. Net OPEB Obligation (NOO) as of 12-31-2014 (1 + 5 - 6)	$89,616,216

I. CERTIFICATION

This actuarial report has been prepared in compliance with financial reporting requirements applicable to post-retirement benefit plans of governmental employers as provided in GASB Statement No. 45, including the Actuarial Standards of Practice relating to postretirement benefits other than pensions.

Respectfully submitted,

Sandor Goldstein, F.S.A.
Consulting Actuary

Appendix 1

Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.

3. Normal Cost. That portion of the present value of pension plan benefits, which is allocated to a valuation year by the actuarial cost method.

4. Actuarial Accrued Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.

5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.

6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.

7. Entry Age Actuarial Cost Method. A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided at a valuation date by the actuarial present value of future normal costs is called the actuarial liability.

8. Actuarial Assumptions. Assumptions as to future events affecting pension costs.

9. Actuarial Valuation. The determination, as of the valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a retirement benefit plan.

calculating the NOO. According to GASB Statement No. 45, an employer's Net OPEB obligation is equal to the cumulative difference since the effective date of GASB Statement No. 45 between the annual OPEB cost and the employer's contribution. The Net OPEB Obligation as of December 31, 2014 is determined in Exhibit 6 below.

The following information is applicable to the calculations of the information shown in Exhibits 4, 5, 6:

Valuation Date:	- December 31, 2014
Actuarial Cost Method:	- Entry Age Normal
Amortization Method:	- Level Percent of Payroll
Remaining Amortization Period:	- 30 years
Actuarial Assumptions:	
Investment return rate:	- 5.5% per year
Inflation rate:	- 3.0% per year
Increases in Postretirement health care costs:	

2016	7.5%
2017	7.0%
2018	6.5%
2019	6.0%
2020	5.5%
2021 and later	5.0%